



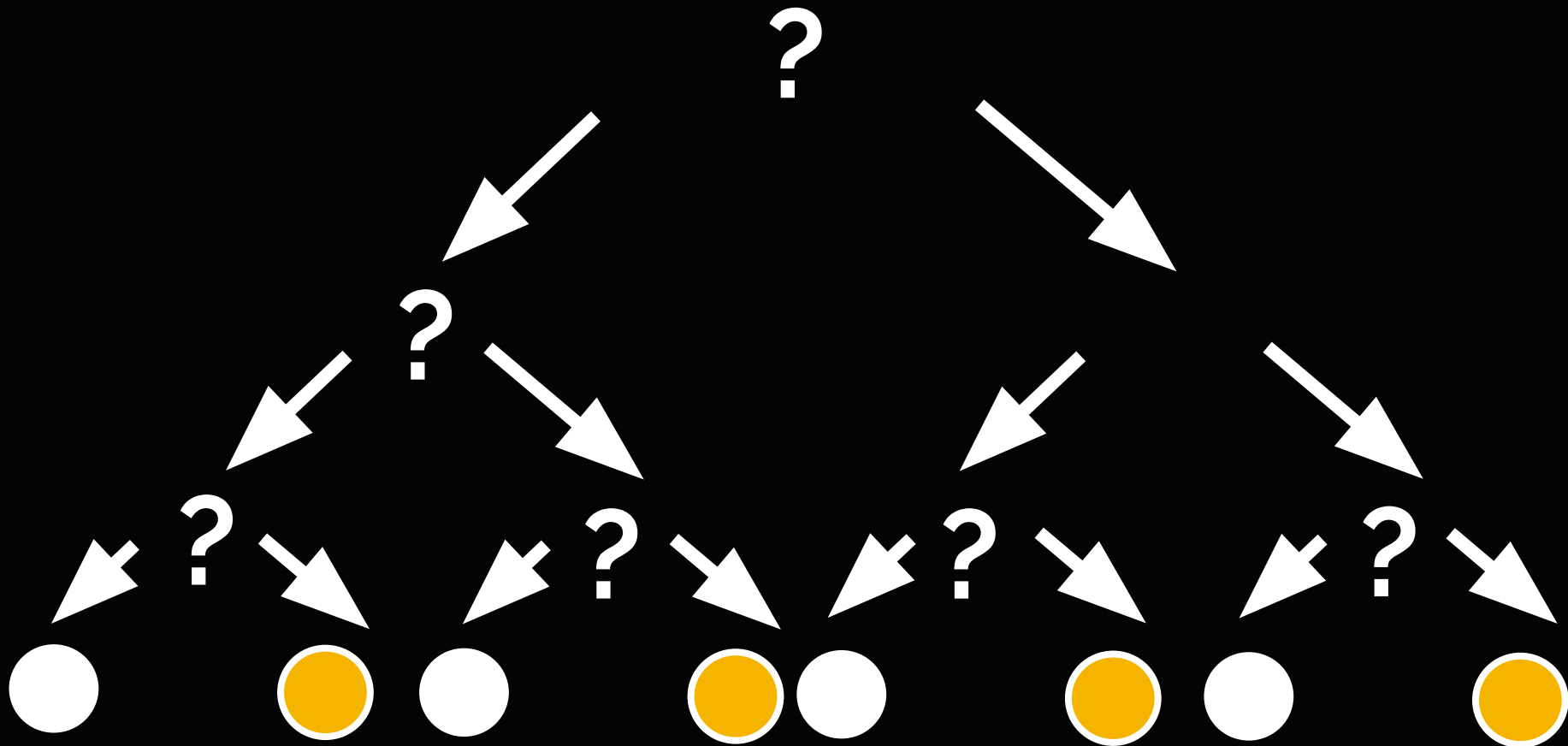
**What is the
Random
Forest
Classifier
Model?**

Random Forest

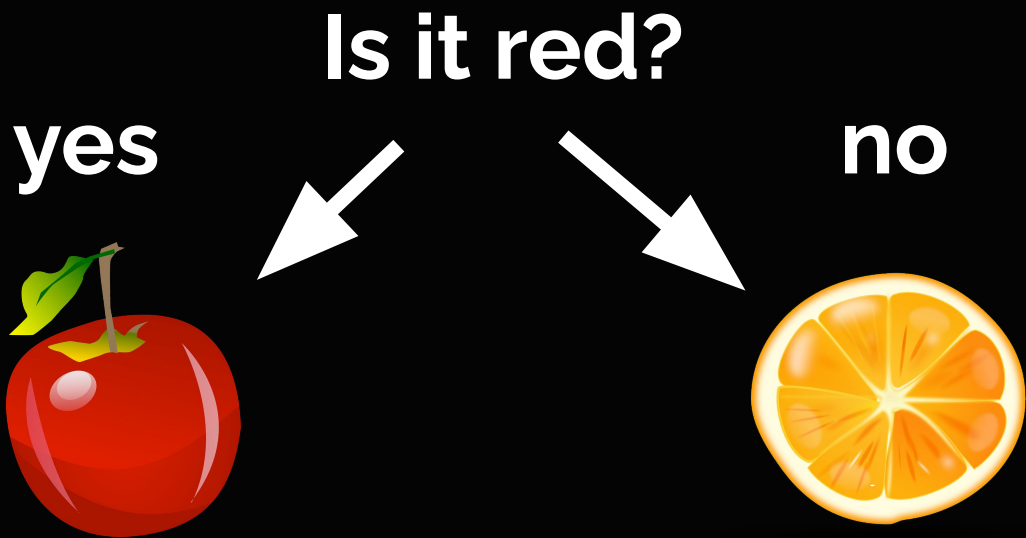
- Learning method
- Constructs multiple decision trees
- Final decision is based on the majority of trees and is chosen by random forest

Decision Tree

- Tree shaped diagram
- Determines a course of action
- Each branch represents a possible decision, occurrence or reaction



Is this an apple or an orange?



Input

- x
- Set of attributes
- Describe data or situation

Output

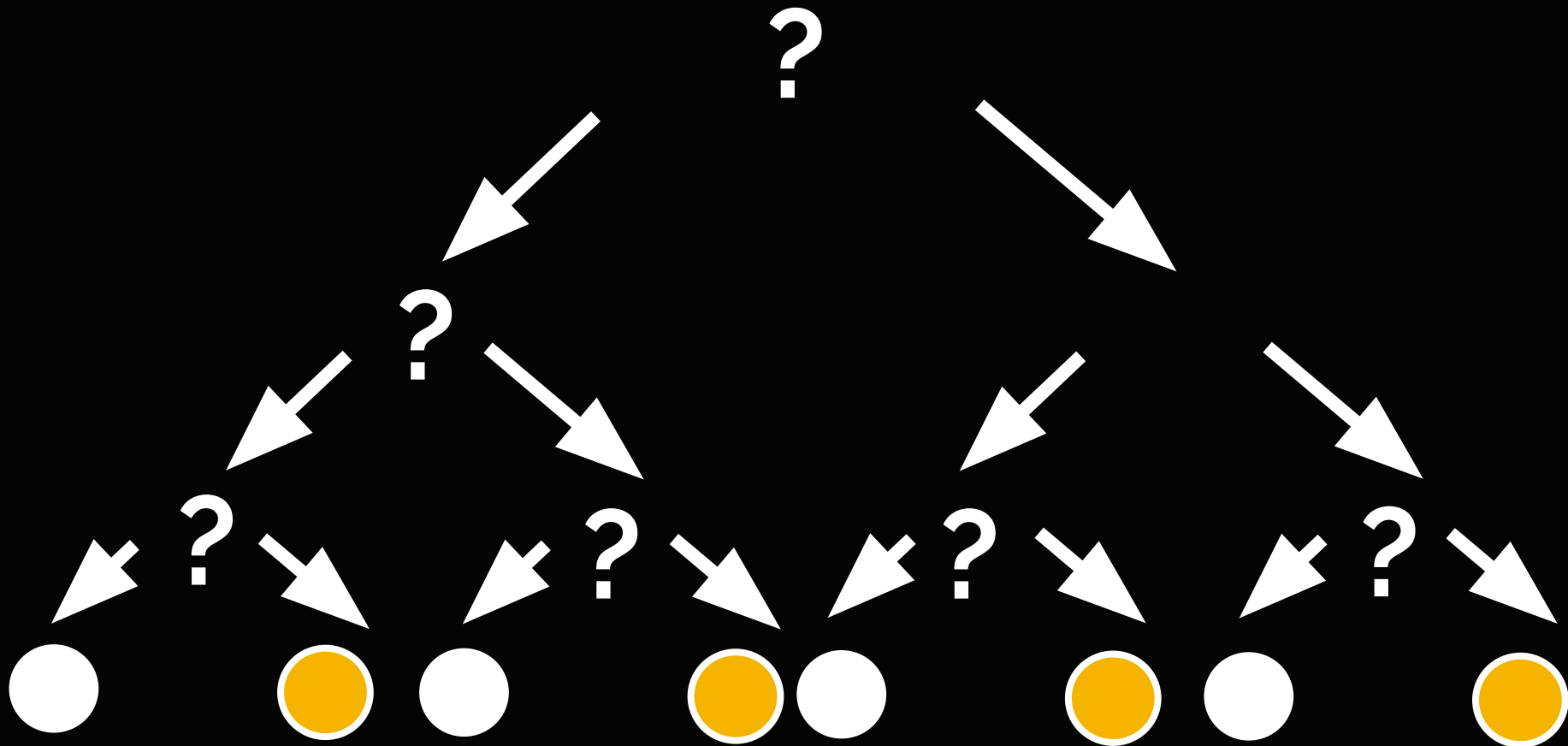
- y
- Decision
- Predicted value for input

Decision Tree

- **Input: Vectors of attributes**
- **Output: Yes/No based on goal**

Decision Tree Example

- **Goal: Wait for an available table?**
- **Input:**
 - How busy is the restaurant?
 - How long is the wait?
 - Am I hungry?
 - Did I make a reservation?
 - ...



Real World

- Enhanced thematic mapper on satellites to get images of Earth
- Object detection of vehicles in traffic
- Track body movements and recreate them in a game

Random Forest - Benefits

- High quality models
- Fast to train

Random Forest - Cons

- Models can get large
- Can be hard to understand predictions



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